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ABSTRACT

The major objectives of a project initiated by the Canada Council in 1976 were to develop measures of subjective social indicators and to examine factors responsible for variation in those indicators across Canada and over time. Subjective social indicators are interpreted as measures of personal perceptions, preferences, attitudes, and values. The project drew its initial inspiration from quality of life research in Britain and from research on personal perceptions at the University of Michigan. However, Canadian researchers theorized that these projects had used limited measurement scales and had ignored pertinent data on environmental influences and on objective-subjective links over time. The hypothesis of the Canadian research was that other measures are closer to the perceived quality-of-life concept than satisfaction. These measures will be identified through information gained from surveys of 2,000 Canadians in 1977, 1979, and 1981; panel surveys of 1,000 respondents in Toronto and Montreal; surveys of elite governmental and private officials; statistical information on various geographical areas; and media content analysis. Respondents will be asked how the quality of their lives relates to their aspirations and expectations. They will then be asked to compare the quality of their lives with that of the average person living in Canada. Findings from initial surveys indicate that an accurate measure of quality of life can be made by using appropriate survey scales and by comparing the respondent's assessment of his own position with that of the average Canadian. (Author/DB)

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IS SATISFACTION A GOOD MEASURE OF
THE PERCEIVED QUALITY OF LIFE?

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In May of 1976, the Canada Council announced the award of a major long-term grant for the study of subjective or perceptual social indicators to a group of researchers associated with the Institute for Behavioural Research at York University in Toronto. The grant, which covers five years of research and provides about \$1 million, was the first large award for empirical research on subjective social indicators in Canada. This paper will provide an outline of the research design and its rationale and go on to discuss some of the measures being used to assess what has become the central subjective social indicators - the perceived quality of life.

Overview

Between 1970 and 1975 a substantial amount of research was initiated in the United States and Britain on subjective social indicators -- that is, measures of personal perceptions, preferences, attitudes, values, etc. At the center of this work was the research of two groups at the University of Michigan - Angus Campbell, Philip Converse and Willard Rodgers in one and Frank Andrews and Stephen Withey in the other. Both groups worked from a common conceptual model but differed in the types of measures which they preferred and in the purposes of their projects. In the United Kingdom, Mark Abrams and John Hall undertook a series of studies which shared a conceptual model and methodology with the Michigan work, particularly the Campbell, et. al. formulation. The focus of all of these efforts was perceptions of the quality of life -- the subjective indicator most

directly analogous to the objective quality of life concerns underlying the work in the OECD internationally and in government departments such as HEW in the United States.

Elsewhere in the U.S., research on subjective indicators has been undertaken by the Survey Research Centre at Berkeley which was primarily concerned with prejudice and alienation and at the National Opinion Research Center with their General Social Survey of social and political attitudes. In addition, the survey research on values by Rokeach and by Inglehart falls within the general framework of research on subjective social indicators.

In summary, during this period the extensive funding for research on subjective social indicators indicated that it was an idea whose time had come. Further, the extent of research in the area led to the conclusion that many of the ticklish measurement problems had been, or were about to be, resolved. The rather luke-warm reception given the products of this research by funding agencies and by other social scientists, at least in the United States, was not yet apparent nor were the flaws in the research that led to such a response.

The Canadian subjective indicators project on which we are now embarked drew its initial inspiration from the work at Michigan, and particularly from earlier papers by Campbell and Converse, and from the part of their research which dealt with what they called "standards of comparison", that is, levels of expectation, aspirations and other comparison points used in evaluating any situation or object. It took as its starting point the conclusion that the

American and British efforts had successfully developed measures of the perceived quality of life and these measures could now be used to develop social indicators measured over time and on a national basis.

Our research has two major objectives. The first is to develop several subjective social indicator measures which can be used to describe the national population and subgroups within it. These measures, although derived from cross-sectional surveys, were to be collected over time to develop indicators of change. The second objective was to examine the causal agents responsible for variation in these indicators across the nation and over time.

It's this latter objective which holds the greatest promise for the development of social indicators in general because it leads to an examination of the ties between objective and subjective social indicators. One of the potential uses of subjective indicators research is that it can inform the development of objective indicator systems by identifying those objective indicators which have a significant impact of perceptions of the quality of life. Without such a test of relevance, the creators of social statistics have no criteria for deciding which of the multitude of objective indicators should be included in a system of social indicators. By establishing covariance relationships between objective indicators and their subjective counterparts, efforts can be focused on the generation of highly accurate, spatially-detailed statistical information systems which can be used to produce summary measures of demonstrated importance to the population's perceptions of the quality of life.

While some attention has been paid to the relationships between subjective indicators and the objective conditions, most of these efforts have been directed at data which can be collected via self-report, such as income. As a result, little analysis of the effects of the economic, social, political and physical attributes of the local environment has been conducted. In part, the lack of enthusiasm for most recent research on subjective indicators stems from the absence of aggregate objective measures which form the core of most objective indicator research. This shortcoming is not inherent to investigations of subjective indicators but to deal effectively with it requires a research design which incorporates data on geographical areas as well as on the subjective responses of individuals living within those areas. The design should also be influenced by the desire to investigate the objective-subjective links over time since an analysis which relates changes in one to the other is more powerful than one limited to a single point in time.

Another area where we have attempted to go beyond the current research is our investigation of the perceptions and attitudes of elites in the government and private sectors. Elites are important in the context of social indicator research for two reasons: first, they and their decisions both influence and are influenced by public perceptions and attitudes regarding the quality of life and other subjective indicators; and, second, elites are often the leading edge of social change in that, through a variety of mechanisms, their preferences and prejudices often are strong influences on the direction of social change. This latter statement may be overstated because we know very little

about the impact of elite dispositions on the direction of social change particularly in a highly-decentralized social democracy such as exists in Canada, where considerable conflict may exist among elites with differing goals and values. In fact, changes in elite attitudes may follow rather than lead changes in the general public rather than the reverse but it is the uncertainty about the size and direction of these effects which recommends them as research topics.

It is, however, the perceptions of elites in different sectors and at different levels and their relationships to public perceptions which are of central interest to social indicators research. Elite perceptions of the quality of life in different areas and their perceptions of the public's level of satisfaction in those areas influence the types of policy which will be endorsed and the content of messages which may be transmitted, via the media, to the public. To the degree that public and elite perceptions and attitudes are consistent and that elites are consistent across sectors, actual or potential social and political conflict is lessened and the direction of social change becomes more apparent.

It is not clear that we will be able to resolve most questions about the complex connections between elite and public preferences or among sectoral elites in the course of a five-year study. It is clear, however, that if social indicators research is interested in doing more than describing social change after the fact, it must incorporate elite research with the type of studies of the public now being undertaken.

Our general research schema is represented in Figure 1.

Insert Figure 1 here

I have briefly discussed the rationale for the concern with environmental

characteristics and elite behaviour as determinants of subjective indicators. The "Life Events" component constitutes the third major cluster of causal variables in that significant personal events, such as marriage or divorce, job advancement or loss, changes in family size and so on, have a large impact on perceived life quality and other subjective indicators. These events result, in some cases, from changes in environmental characteristics and in other cases are independent of them -- for example changes in life stage which result from aging. Any study which attempts to identify the major agents responsible for changes in subjective indicators should examine the role of life events both as mediators of a changing environmental conditions and as independent causes.

Research Design

The discussion, to this point, has been concerned with general research objectives and an overview of the major clusters of variables. I would like to now turn to the specific research design being implemented to generate the data required to examine the critical relationships. Four major data collection activities are underway with a fifth to be undertaken at a later date. As shown in Figure 2, they are:

1. Cross-sectional surveys. National surveys of Canadian population will be undertaken in 1977, 1979 and 1981 to develop time-series measures of the central subjective indicators. Samples of two thousand respondents will be regionally stratified to produce fairly accurate regional estimates as well as very accurate ones for the national population. Although the main purpose of these surveys is to develop

good descriptive data, the sample selection procedures are designed to hold geographical areas, in this case Census Tracts, constant across surveys. Given the survey design only 160 of the approximately 4000 in Census Tracts in Canada will be sampled but the same 160 will be included in each wave of survey work.

The constancy of these geographical units allows us to develop measures of the environmental characteristics in those areas and relate changes in them to measures of subjective indicators. A larger number of geographical units would have resulted in sizeable data acquisition and management problems since we are interested in objective measures drawn from a variety of policy areas, e.g. health, education, employment, crime, etc. The design of the cross-sectional survey reflects both our desire to develop good descriptive subjective indicators and to examine the causal linkage between objective and subjective measures. The key to untangling those connections, at least in this study, is the five-year duration of the investigation which permits the analysis of covariation over time.

2. Panel Surveys. Panel surveys in two cities will be done in conjunction with the national surveys in 1977, 1979 and 1981. One thousand respondents, evenly divided between the Toronto and Montreal metropolitan areas, will be interviewed. Unlike the cross-sectional survey in which the geographical areas remain constant while the respondents change, the panel holds constant the respondent while not constraining geographical location. Given the mobility rates in these two cities, it is anticipated that 50% of the panel will move within the five-year duration of the study.

This component of the research provides us with an opportunity to investigate the effects of changes in environmental characteristics and life events on perceptions of the quality of life and other indicators.

Toronto and Montreal were selected as panel locations because a) over 20% of the Canadian population lives in the two cities, b) they are easily accessible to the project research group which can independently develop objective measures to supplement the data available through government agencies, and c) both provide highly varied urban environments -- some of which are very stable while others are subject to rapid change.

Since the primary purpose of the panel survey is to investigate the dynamics of subjective indicators rather than produce representative descriptive measures of the urban populations, a procedure for selecting panel members which insures the inclusion of those likely to experience change in their lives will be utilized. During the first wave of survey work, the cross-sectional and panel respondents in Toronto and Montreal were combined producing approximately 700 interviews in each city. Respondents will then be selected for reinterview in the panel so as to maximize the occurrence of those who have a high probability of change in housing, job and family composition since the initial interview.

3. Elite surveys. Elite surveys will be conducted each of the three years in which the public is surveyed. The elite sample is selected positionally -- that is, positions within sampled organizations are selected and the incumbent interviewed. In most cases the senior administrative officer is selected from organizations in the private sector

while senior elected officials and civil servants are included from government agencies. The sample is composed of 550 respondents drawn from the following areas: large corporations, small business, labour unions, government (elected and civil service positions from federal, provincial and local levels), the legal profession, media, agricultural organizations and the academic community. The largest segments of the sample will come from the corporate and governmental sectors.

The elite sample is designed as a panel that is defined by position rather than person. Given the normal rate of turnover in these senior positions, it should be possible to distinguish the effects of role or position on elite perceptions. As a result of the over-time aspect of the study, the sensitivity of elites to changes in environment and in public attitudes can also be examined.

4. Ecological Data Base. This data base is composed of statistical information on the economic, social, political and physical attributes of the geographical areas in which the respondents live. It includes indicators from each of the areas one usually finds in volumes on objective social indicators --health, employment, safety, housing and so on. These measures are, in most cases, available through governmental statistical services but additional indicators may be developed by the research group in the Toronto and Montreal areas.

The organizing unit for this data base is the Census Tract because it most clearly parallels the idea of neighbourhood. It has been argued by Rossi and others that many contextual variables manifest themselves most clearly at the neighbourhood level. We

would expect, for example, neighbourhood crime rates and population densities to be more closely tied to the perceived quality of life than measures of those variables compiled for the city or metropolitan area. Other types of indicators such as cultural facilities, job vacancies and cost of living measures may be more appropriately developed for larger aggregates. The ecological measures will generally be included for the smallest aggregation for which they are available. Special tabulations may be required to produce indicators at the appropriate levels in large urban areas.

5. Media Content Analysis. Although currently scheduled as a future project, we intend to develop a content analysis of daily newspapers in the ten major Canadian cities and news programs on the two national television networks. This information should give us some understanding of the manner in which the media filters information between the public and the elite.

The research design is quite complex and ambitious but each element is required if we are to pursue our dual objectives of developing good descriptive subjective indicators at a national and regional level and exploring the factors responsible for variation in those indicators.

Measuring the Perceived Quality of Life

The central subjective social indicator in this project is perceived quality of life. Drawing from the research at Michigan, we focused on measuring the perceived quality of life in general and in specific areas by asking the respondents to evaluate their own lives using identical measures across all areas. Andrews and Withey have shown that evaluations of a small number of areas or domains can capture most of the variance in perceived quality of life. Our misgivings about the conceptual independence of the central domain of the Andrews work -- evaluations of self -- led us to drop that particular area but we have used most of those identified by Andrews and Withey and used by Campbell and his colleagues.

The major controversy in this research, however, does not involve what areas or objects are to be evaluated but what measures are best suited to the task. Four types of measures have been suggested to tap perceived quality of life: a) cognitive measures such as satisfaction used by Campbell, Converse and Rodgers, and by Abrams in England, b) affective measures such as happiness used by Bradburn and in the Gallup Poll, c) measures which combine the two such as the Andrews-Withey Delighted-Terrible scale and d) self-anchoring measures such as Cantril's Ladder Scale and George Gallup's modification of "it--the Mountain Scale.

Of the four, satisfaction measure and the Andrews-Withey measure have received the most attention, and I will consider them here -- saving a discussion of the self-anchoring scale for later in this paper (see Appendix A for the text of the questions). The difficulty

in deciding among measures can be clearly understood when one realizes that two very competent groups of researchers working out of the same research institute at the University of Michigan did not arrive at the same measure of perceived quality.

The Campbell research, which was conducted earlier than Andrews', utilized a seven-point satisfaction-dissatisfaction continuum to measure perceived quality. Their choice was consistent with that psychological adage that a seven-point scale is all that most individuals could deal with effectively. Whatever the reasoning the use of this scale proved the Achilles heel of their research. The difficulty with the measure resulted from a very serious skew toward the positive end of the scale. In all fifteen specific domains which were assessed, the modal response to this scale was the highest one -- "Completely Satisfied". In twelve of the fifteen over one-third of the sample indicated complete satisfaction with their life in that area. The general satisfaction scale was not quite as positive with 22% indicating complete satisfaction and an additional 40% in the adjacent category.

These highly positive distributions had two negative consequences: first, there was so little variance in the measures that the investigators were forced to present almost all of their data as standardized scores thus eliminating any comparison of absolute scores over time, and second, these data flew in the face of the assumptions held by many academics, policy-makers and social commentators who maintained that the quality

of life in America had declined in recent years. Since the satisfaction scores of disadvantaged groups such as Blacks and the poor were only slightly lower than others, many researchers concluded either that satisfaction was a poor social indicator or that the measures used were flawed. As a result, the Campbell, et. al. study has had little impact on the direction of social indicators development and has not encouraged funding for additional research.

The scale developed by Andrews and Withey is not, strictly speaking, a satisfaction measure and represented an attempt to "improve" the shape of the response distributions. They have mustered an impressive body of evidence to demonstrate that the Delighted-Terrible scale does, in fact, reduce the proportion of respondents in the top category while maintaining the size of the correlations among the various domain measures and with demographic variables such as income. In addition, they have shown that the measure is relatively free of method bias.

There were, however, three difficulties with the Andrews-Withey scale from our point of view. The first and most serious was that the variance of their measures was, in many cases, lower than the satisfaction measures used by Campbell. The second was that we wanted to experiment with expanding the scale and it would have been difficult with a scale composed of emotive words. Finally, national studies in Canada are conducted in English and French and difficulties of translation could easily destroy the comparability of the measures. Because of

these difficulties we decided to focus our efforts on rectifying the satisfaction measure rather than use the Delighted-Terrible scale.

It was clear that the satisfaction measure as used by Campbell was in need of modification contrary to our initial premise that measurement problems had been resolved.

The most direct suggestion for modification came from the British Quality of Life research which began by using a seven-point satisfaction-dissatisfaction measure and dropped it in favour of an eleven-point scale in 1973. They have not presented a rationale for the change but the response distributions indicated greater variance and less top-end loading with the longer scale. The two British surveys incorporating different versions of the measure were separated by two years and not directly comparable but their results encouraged our speculation that scale length was an important variable.

During the past year we have conducted three pretests which included different satisfaction measures all with identical question wordings. Each pretest was conducted in Toronto and Montreal and was evenly divided between English and French respondents. The sampling procedures for Pretests A and L were comparable but somewhat different from Pretest C so that B and C should not be directly compared. Table 1 shows the distributional attributes of the scales and indicates the effects of lengthening the scales. The criteria for evaluating these figures are not well established but increasing scale length seems to clearly improve several scale attributes. Variance increases with length while the proportion of respondents in the highest

		<u>General Satisfaction</u>				<u>Financial Satisfaction</u>			
		<u>Pretest A</u>	<u>Pretest B</u>	<u>Pretest B</u>	<u>Pretest C</u>	<u>Pretest A</u>	<u>Pretest B</u>	<u>Pretest B</u>	<u>Pretest C</u>
Highest Score	11	*	*	6%	6%	*	*	5%	4%
	10	*	*	11	16	*	*	5	5
	9	*	*	15	23	*	*	8	17
	8	*	*	18	17	*	*	11	21
	7	*	17%	9	14	*	9%	11	18
	6	*	28	17	12	*	16	18	12
	5	19%	24	7	7	12%	19	8	7
	4	69	19	7	1	36	20	11	9
	3	9	7	3	3	29	18	10	4
	2	2	4	3	1	19	11	7	1
Lowest Score	1	1	1	3	0	4	8	8	1
Mean		4.03	5.12	7.13	7.86	3.33	4.17	5.69	7.07
Standard Deviation		.67	1.42	2.45	2.04	1.05	1.72	2.75	2.12
% Highest Category		19	17	6	6	12	9	5	4
% Two Highest Categories		88	45	17	22	48	25	10	9
% Below Midpoint		3	12	23	12	23	37	44	22
Skew		1.23	.60	.52	.69	.26	.13	.04	.46
Kurtosis		4.13	.12	-.30	.09	-.64	-.87	-.85	-.22

* = Scale value not included

Attributes of Satisfaction Measures

Table 1

category decreases. Skew and Kurtosis decrease or remain in the same range. A comparison of the seven-point and eleven-point scales used in Pretest B shows that the top two values in the eleven-point version contain the same proportion of respondents as the "Completely Satisfied" response of the seven-point scale. These data suggest that at the top end of the scale, the seven-point scale unnecessarily compresses the distribution and overstates the segment of the sample which is completely satisfied.

There is the possibility that much of the variance introduced by the longer scale length is random variation. One method for evaluating that possibility is to examine the correlation of each scale with a criterion variable. If the variation is random, the correlations using the longer scales will be significantly lower than the short scales. Unfortunately no criterion variable is possible in this area but we can compare the correlations between the financial satisfaction measures and income. Those correlations are: .16 for Pretest A which used the five-point scale; .40 for the seven-point scale in Pretest B and .42 for the eleven-point scale in that pretest, and .23 for Pretest C with the eleven-point version.

There is no evidence in these figures to support the contention that the increase in variance obtained with the eleven-point scale is random variance. Comparisons of seven and eleven-point scales in other domains are consistent with this interpretation as well. On the basis of these analyses, we have concluded that an eleven-point satisfaction measure is preferable to the seven-point scale used by

Campbell and his colleagues and to the seven-point Delighted-Terrible Scale developed by Andrews and Withey. It may not, however, be superior to an eleven-point version of this latter scale but the problems incurred in the expansion of the scale and its translation into other languages seem insurmountable.

Before tackling the last issue of this paper, some brief speculation about the reasons for the differences between these two scales is appropriate. Respondents seem to determine their answers to scales with positive and negative poles through a two-step process. First, they decide if they are positive, negative or neutral about the issue, and then they determine the degree of positiveness or negativness. Thus a seven-point scale is, in effect, a three-point scale in this latter step while an eleven-point scale is a five-point scale.

Respondents also seem to divide the response continuum on the positive or negative side into roughly equal proportions according to the number of scale values. As a result of this division, the value identified as "Completely Satisfied" covers a larger range of responses as the scale length decreases. To suppose that a value labeled in such a way has an absolute meaning outside of the choice context in which it is presented ignores the psychological research which shows that an individual's choices vary with the options presented since the information conveyed in the alternatives helps define the meaning of each choice.

Is satisfaction a measure of perceived quality of life?

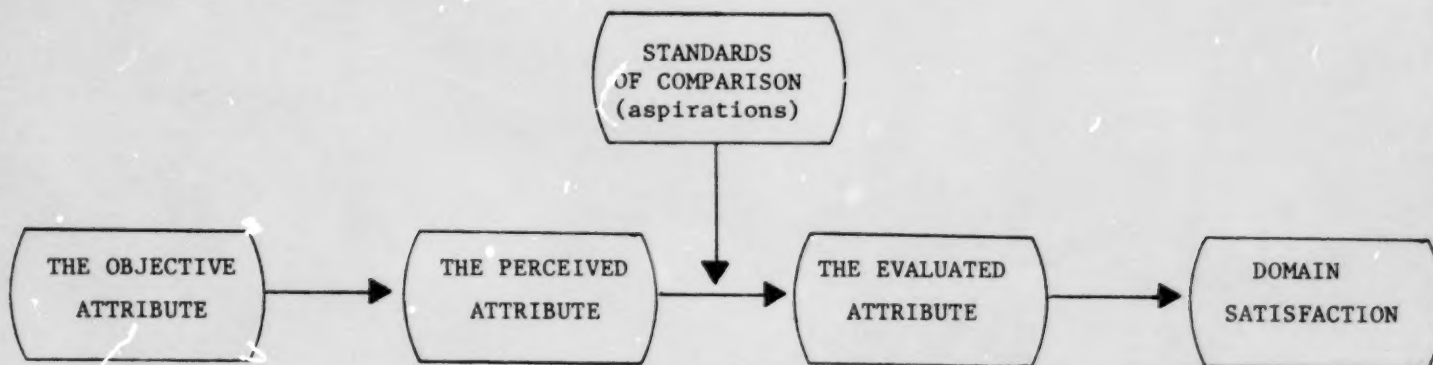
Almost all of the research on the perceived quality of life in the United States and England has focused on satisfaction or satisfaction-like

measures such as the Delighted-Terrible scale. I want to contend that, in one sense, these are not measures of the perceived quality of life -- rather they are responses to the perceived quality of life. Satisfaction measures result, in large part, from the comparison of aspirations and expectations with one's current situation. Thus it is possible, if not probable, that individuals could assess their quality of life as high yet be dissatisfied and as average or low and be satisfied.

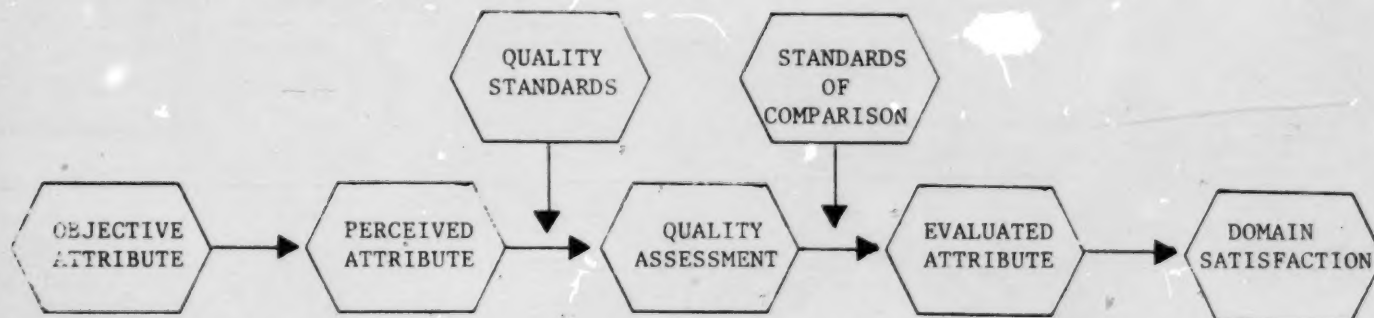
It is these potential discrepancies between perceived quality and satisfaction that lead some policy analysts to write-off subjective indicators like satisfaction because they feel that the poor or other disadvantaged groups are too often satisfied with a bad lot while the middle and upper-classes are discontent with a good one. I am not arguing here that satisfaction measures have no place in subjective social indicator research but that other measures, which may be closer to the perceived quality of life concept, have been neglected.

Figure 3 shows the Campbell, et. al. model of satisfaction and the modification of it that follow from my argument. The initial model holds that the perceived attribute is compared to some standard such as level of aspiration and an evaluation arrived at which is level of satisfaction. The extension of the model inserts a prior assessment of quality which results from a comparison of the perceived attribute with some standard of excellence perhaps defined by what others have. In concrete terms, the difference can be

Campbell, Converse and Rodgers Model



Revised Campbell Model



TWO SATISFACTION MODELS

FIGURE 3

illustrated as follows: the first model suggests that a man and his family living in a three-bedroom house with one bath might say to himself that it had always been his ambition to live in a house with four bedrooms and two baths and determine that he was dissatisfied with his housing. The expanded model indicates that he would arrive first at an assessment of whether his housing was of good quality or not and then, compare it with his aspirations and expectations to determine whether it was good enough to be satisfactory or bad enough to be unsatisfactory.

The major problem resulting from this argument is that even if we believe that satisfaction and perceptions of quality are conceptually distinct, how do we measure each independently. Research on consistency theory in psychology indicates that if the two evaluations are inconsistent there will be a pressure to revise one or both to produce a better match. We have attempted to develop a measure of perceived quality by using the self-anchoring ladder scale shown in Appendix A and, more specifically, by comparing the respondent's assessment of his own position and that of the average person living in Canada. The difference or gap score is not a "pure" measure of perceived quality but I would argue that it is a measure of perceived quality relative to a specific reference group and is closer to the quality of life concept than satisfaction. Table 2 shows the distribution of the satisfaction and ladder scores for financial situation in two of the pretests.

Of greater interest are the correlations among these measures and between them and income shown in Table 3. Both matrices show the

		<u>Pretest B</u>			<u>Pretest C</u>		
		<u>Satisfaction</u> <u>11-Point</u>	<u>Ladder/</u> <u>Self</u>	<u>Ladder/</u> <u>Average</u>	<u>Satisfaction</u>	<u>Ladder/</u> <u>Self</u>	<u>Ladder/</u> <u>Average</u>
Highest Score	11	5%	1%	3%	4%	1%	1%
	10	5	1	1	5	3	2
	9	8	7	6	17	21	12
	8	11	9	14	21	17	26
	7	11	18	25	18	20	26
	6	18	27	29	12	19	22
	5	8	16	18	7	8	7
	4	11	11	3	9	6	1
	3	10	6	1	4	1	0
	2	7	2	1	1	1	0
Lowest Score	1	8	3	1	1	5	3
Mean		5.69	5.90	6.55	7.07	6.78	6.97
Standard Deviation		2.75	1.93	1.57	2.12	2.15	1.71
% Highest Category		5	1	3	4	1	1
% Two Highest Categories		10	2	4	9	4	3
% Below Midpoint		44	38	24	22	21	11
Skew		.04	.13	.19	.46	.93	1.25
Kurtosis		-.85	.26	1.46	-.22	.72	3.15

Attributes of Financial Situation Measures

Table 2

Pretest B

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1. Satisfaction	-				
2. Ladder/Self	.65	-			
3. Ladder/Average	.15	.18	-		
4. Ladder/Self-Average	.46	.73	-.54	-	
5. Family Income	.42	.32	-.07	.33	-

Pretest C

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1. Satisfaction	-				
2. Ladder/Self	.63	-			
3. Ladder/Average	.01	.45	-		
4. Ladder/Self-Average	.56	.67	-.37	-	
5. Family Income	.23	.46	.13	.34	-

N = 150 p > .05 = .16, p > .01 = .21

Correlations Among Financial Situation MeasuresTable 3

expected high correlations between the satisfaction measure and the ladder rating of financial situation. These correlations are enlarged somewhat because of correlated methods effects. Correlations between the satisfaction scales and difference measures (.46 and .56) are a better indication of the relationship between perceived quality and satisfaction because they are not subject to common method variance. Family income shows a higher correlation with the difference measure than satisfaction in Pretest C as we would have predicted but the reverse was true in Pretest B.

If difference scores derived from the ladder scales measure a construct which is at least partially independent of satisfaction, then we would expect the correlation between the difference measure and income to remain when the effects of satisfaction were held constant. This is, in fact, the case as the correlation in Pretest B was reduced from .33 to .17 ($p > .05$) and in Pretest C from .34 to .26 ($p > .01$).

The existence of these independent relationships has encouraged attempts to pursue at least two types of subjective indicators--perceived quality and satisfaction. The difference measures seem to approximate the former, although we do not yet know enough about how they work, and the eleven-point satisfaction scale looks like a good measure of that variable.

We hope that this research will inform and encourage the efforts of others as the research at Michigan and in England have benefited and encouraged us. There is no other area of social research that offers greater need for our possibility of international cooperation than the social indicators area. Let us learn from each other's success and failures.

Seven-point Satisfaction Scale(Campbell, et.al.)

Here is a card that I want you to use to tell me how satisfied you are with (Name of city or county) as a place to live in. This is how we will use it. If you are completely satisfied with _____ as a place to live, you would say 'one'. If you are completely dissatisfied, you would say 'seven'. If you are neither completely satisfied nor completely dissatisfied, you would put yourself somewhere from two to six; for example, four means that you are neutral, or just as satisfied as you are dissatisfied.

1	-	2	3	4	5	6	7
completely				neutral			completely
satisfied							dissatisfied

Eleven-point Satisfaction Scale(Atkinson, Ornstein, Stevenson and Blishen)

Here is a card that I want you to use to tell me how satisfied or dissatisfied you are with this neighbourhood as a place to live. If you are completely satisfied with it you would say "eleven" and if you are completely dissatisfied with it you would say "one". If you are neither completely satisfied nor completely dissatisfied you would put yourself somewhere from "two" to "ten". The higher the number, the more satisfied you are.

In general, how satisfied or dissatisfied are you with this neighbourhood as a place to live? Which number on the card comes the closest to how you feel?

1	2	3	4	5	6	7	8	9	10	11
Completely										
Dissatisfied				Neutral					Completely	Satisfied

Delighted-Terrible Scale(Andrews and Withey)

In the next section of this interview I will be asking how you feel about your life, and life in this country. Please tell me the feelings you have now -- taking into account what has happened in the last year and what you expect in the near future. Most of the questions can be answered by telling me what number on this card comes closest to how you feel: 'one' for delighted, 'two' for pleased, and so forth on to 'seven' for terrible. If one of the questions doesn't seem to fit the way you think, you can tell me 'A' to indicate that you can't answer that particular question.

I feel:

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Delighted	Pleased	Mostly Satisfied	Mixed (About equally satisfied and dissatisfied)	Mostly Dissatisfied	Unhappy	Terrible

Here is a picture of a ladder. At the top of the ladder is the best life you can imagine -- the ideal life. At the bottom of the ladder is the worst life you can imagine. Where on the ladder would you place:

- a. Your present life?
- b. Your life when it was the best
it has ever been?
- c. The best life you could ever
hope to have?
- d. The life you expect to have
in five years?
- e. The life you deserve to have
right now?
- f. The life of the average person
living in Canada?

10	THE BEST YOU CAN IMAGINE
9	
8	
7	
6	
5	
4	
3	
2	
1	THE WORST YOU CAN IMAGINE
0	